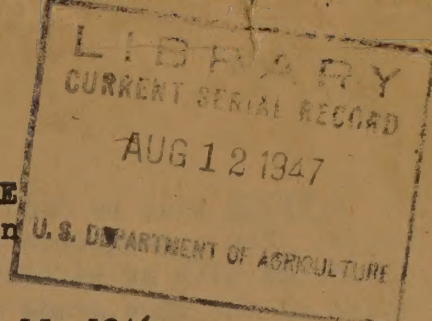


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UNITED STATES DEPARTMENT OF AGRICULTURE
Production and Marketing Administration
Washington 25, D. C.



April 15, 1946

EXPORT PACKAGING SPECIFICATIONS

These specifications supersede those contained in FSC-1742-E. All vendors shall use these types of boxes as rapidly as existing stocks on hand or under contract are exhausted.

Unless otherwise specified, the weight of contents of a V box shall not exceed 65 pounds, a X box 60 pounds, a W5 box 50 pounds.

Boxes to be used for a product will be designated in the announcement requesting offers of the product.

TABLE IBOXES: FIBERBOARD, CORRUGATED & SOLID

Type	Grade	Compliance Symbol	Approximate number of Corrugations per foot	Nominal Caliper Inches	Minimum Average Bursting Strength <u>lbs. per sq. in.</u>		Maximum Per- missible Ply Separation Wet. Inches
					Dry	Wet	
<u>Solid Fiber</u>							
SF	1	V1s	-----	0.100	750	500	1/4
SF	2	V2s	-----	0.090	550	500	1/4
SF	3	V3s	-----	0.090	400	150	1/4
SF	4	X1s	-----	0.090	350	150	-
SF	4	X2s	-----	0.100	400	100	-
SF	5	W5s	-----	0.075	275	100	1/4
<u>Corrugated Fiber</u>							
CF	3	V3c	Approximately 50 (B) or 42 (C) per ft.	0.023 facings 0.010 C.M.	400	150	1/4
CF	5	W5c	Approximately 50 (B) or 42 (C) per ft.	0.016 facings 0.010 C.M.	275	100	1/4

SPECIAL ITEMS

1. Caliper tolerance: 5% minus, unlimited plus.

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2. SLEEVES will be used on V1 and V2 boxes according to the destination of the products. The announcements requesting offers will indicate whether the boxes are to be furnished with or without the sleeve. The sleeve shall be made from one piece of board of the same grade of material as the box for which it is intended, scored to form a tube. The joint is to be overlapped 1-1/2" and stitched. Stitching shall be located so that it overlies part of one end of the box or over one end of top of box over which it is to be placed.

Fasteners shall be placed not more than 2" apart and not more than 1" from each end of the joint. The nearest edge of the line of fasteners shall be located between 3/8" and 5/8" from the free end of the stitch lap to assure the lap's lying flush against the end panel without flare. Stitches to be at least .100 x .020. The sleeve shall fit the box snugly over top, bottom and ends. The width of the sleeve shall be the same as the inside width of the box.

GENERAL REQUIREMENTS

Style: Regular slotted boxes, unless otherwise specified in the announcement.

Material: Under normal atmospheric condition (50° to 70° relative humidity) the minimum average bursting test dry, and immediately after 24 hours immersion in water from 70° to 80° F., the minimum average Mullen test wet shall be as given opposite the type of board in Table I. An average of six punctures shall be taken, three from each side of board.

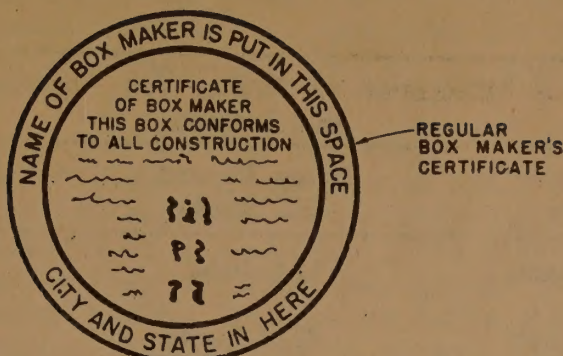
Body Joint: At each joint in the body piece the fiberboard shall overlap not less than 1 1/2" and be secured by metal fasteners. These metal fasteners shall be spaced not more than 2" apart and the distance between the outer fastener and the end of the joint shall not exceed 1". An additional fastener (Tie Stitch) shall be used about 1/2" from the outer fastener, at each end of the joint. Not less than four metal fasteners shall be used in making a body joint. In lieu of a tie stitched joint, boxes may be stitched with the same total number of fasteners (including Tie Stitches), equally spaced in a single row, stitches to be at least .100 x .020. (Boxes for round cans packed in one tier may be stitched with a single row of stitches spaced not more than 2" apart provided stitches not less than .100 x .028 are used.)

Closure: Flaps of the boxes are to be sealed by means of a water-resistant adhesive over all areas of contact between the flaps, by metal stitching or by a combination of these methods.

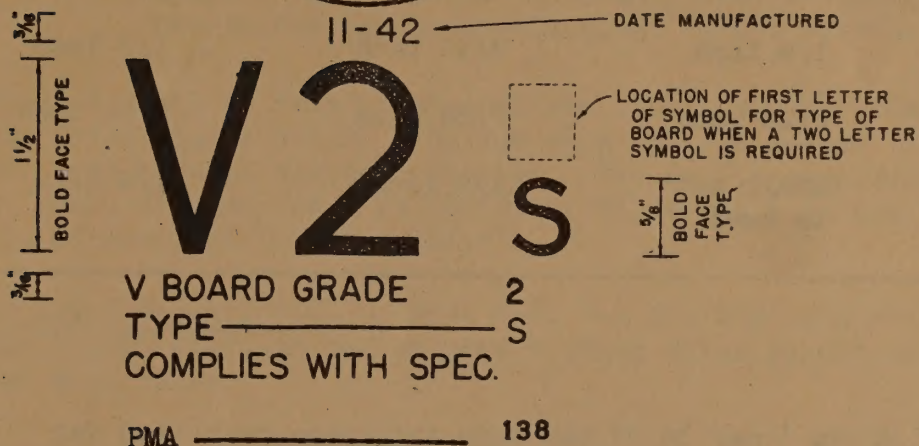
Strapping: Refer to section covering strapping.

Certification: Each box shall be imprinted with the following information which shall occupy a total area not to exceed 36 square inches:

1. Box maker's certificate.
2. Month and year of manufacture, thus 12-42.
3. Individual codes or identification symbols.
4. Certification of compliance with this specification which must be exactly as illustrated in form, size, type and wording. Figures are inserted for illustrative purposes only and must conform in each case to the facts. See Table I for compliance symbols.

REGULAR
BOX MAKER'S
CERTIFICATE**LAYOUT OF COMPLIANCE STAMPS**

AREA OF COMPLETE IMPRINT SHALL NOT EXCEED 36 SQ. IN.
IMPRINT MAY BE PLACED HORIZONTALLY ON SHALLOW
BOXES. ALL TYPE SHALL BE BOLD FACE.



The above described certification data shall be located as follows:

1. Slotted style boxes - In a corner of one side panel.
2. Full telescope boxes - In a corner of top panel of cover.
3. Bliss style boxes - In a corner of top flap of cover.

This data shall be placed as near score lines as is practicable. No other printing shall appear on the boxes except as specified in the contract or purchase order.

PERFORMANCE TESTS: Boxes packed with their contents must meet the following tests:

Immediately after 24 hours immersion in water at a temperature of 70° to 80° F., V-1 boxes must be able to successfully withstand 12 drops from a height of 30 inches and V-2 boxes must be able to successfully withstand 8 drops from a height of 30 inches onto a concrete or stone surface in such fashion that the box strikes diagonally on a corner. One drop is to be made on each of the eight corners consecutively until total number of drops is attained. The opening of one box edge full length or spilling of the contents is to be considered failure of the box to meet this specification.

WIREBOUND WOOD BOXES

Nothing contained herein shall be construed as prohibiting the use of wirebound boxes constructed of thicker board, additional or larger wires, longer cleats, larger staples, or with closer spacing of staples, than specified.

All wirebound wood boxes shall comply with Federal specifications NN-B-631a, except as follows: Styles 1, 2 or 3 boxes or boxes with twisted or loop closures may be used. Veneer or sawed boards of the following thickness shall be used:

Type	Total Packing Weight (Exclusive of Box)	Minimum Thickness of Sides, Top, Bottom, Ends and Liners		
		Group I Woods	Group II and III Woods	Group IV Woods
B-0	0-42 lbs.	1/4 inch	1/6 inch	1/7 inch
B-1	43-55 lbs.	1/4 inch	3/16 inch	1/8 inch
B-2	56-85 lbs.	1/4 inch	3/16 inch	1/8 inch
B-3	86-125 lbs.	5/16 inch	7/32 inch	3/16 inch
B-4	126-280 lbs.	shall not be used.	1/4 inch	1/4 inch

Note 1 - The following species of Group I may be of the same thickness permitted for Groups II and III Woods, for sides, top and bottom, and liners only; Cottonwood, Cypress, Magnolia, Noble Fir, White Fir and Spruce.

Note 2 - All wirebound boxes equipped with loop closures shall have each end loop stapled to the cleat or closures shall be otherwise secured to prevent pilferage. Staple shall be a 3/4" by 16 gage repair staple.

Cleats - Shall be made of Group II, III or IV Woods. Cleats shall not be less than 13/16 x 13/16 except B-4, which shall not be less than 13/16 x 7/8 or 3/4 x 15/16.

Binding Wire - Types B-0, B-1 and B-2 shall not be less than No. 15 gage; Type B-3 shall not be less than No. 14 gage; Type B-4 shall not be less than No. 13 gage. Each binding wire shall be continuous once around the box, not over 6" apart, drawn tight and fastened by staples driven astride the wires through the thin boards and into the cleats. The point of the staple shall not project through the cleats unless clinched. Box shall be closed by looping the wires or by twisting together or otherwise joining securely the ends of each binding wire. Closures or seal used to hold together the ends of the wire shall not have less than 60% of the tensile strength of the wire.

Staples - Type B-3 shall contain not less than 4 staples in cleats 10" and under in length, not less than 6 staples in cleats 10" but not over 13". On cleats longer than 13" the distance between the staples shall not average more than 2-1/4". Staples in cleats shall be not less than 1" No. 16 gage and staples over intermediate wires shall be not less than 7/16" No. 18 gage.

Type B-4 shall contain not less than 8 staples in any cleat for weight 126 lbs. to 280 lbs. Staples in cleats shall be not less than 1-1/8" No. 16 gage, and staples over intermediate wires shall be not less than 9/16" No. 18 gage.

Ends - Types B-0, B-1 and B-2 shall be reinforced with edge liners not less than 1-1/8" wide. Type B-3 ends shall be reinforced with two battens 1-3/8" x 13/16" adjacent to the side cleats. Ends so made shall be firmly fastened to the inside of the side cleats with either No. 16 gage staples having legs not less than 13/16" long or with 7/8" No. 14 gage cement-coated nails. Staples or nails shall be spaced not more than two inches apart. When the box is closed, two 7d. cement-coated nails shall be driven through each side cleat into a batten.

Type B-4 shall be reinforced with two liners 2-7/8" wide for ends up to 16" deep, and with three liners 2-7/8" wide for ends 16" and deeper. Each liner shall be fastened with two lines of well clinched staples. Two No. 14 gage binding wires shall be stapled across the grain of each end. In addition, there shall be one horizontal batten along top edge of each end 1-3/8" x 13/16".

All Bound Construction - Types B-0, B-1 and B-2 ends shall have two edge liners not less than 1-1/8" wide and No. 15 gage binding wires spaced not more than 6" from the cleats or from each other.

Type B-3 ends shall be reinforced with two liners 1-1/4" wide and No. 15 gage binding wires stapled across the grain of each end not less than one binding wire on each end 10" and under in depth, and not less than two binding wires on ends over 10" in depth.

Closure for Heavy Meats - Types B-3 and B-4 for meats other than canned should be of a size for contents to minimize voids. After wires are drawn tight for closing, box cover should be level. If necessary to close under box presses, box should be held in a rigid form under the press. Type B-4 shall be reinforced with one 13 gage griplock or equal round steel band or one 5/8" x .023" flat strap placed midway the width of the box around the top, bottom, and ends.

Boxes shall be printed with the name and address of the manufacturer and a guarantee of compliance with this specification.

NAILED WOOD BOXES

Boxes shall be made of new material of good commercial quality. All boxes shall be made of seasoned lumber having a moisture content not to exceed 18%. The pieces shall show no defects that materially weaken them, expose the contents of the box to damage, or interfere with nailing. No knot or knot hole shall have a diameter exceeding one third the width of the piece. Surfaces of box parts shall be sufficiently smooth to permit legible stenciling and shall not be splintery. Boxes shall be constructed according to Federal specifications NN-B-621a, except for the following:

Determination of Thickness of Ends, Sides, Top and Bottom,
and Thickness and Widths of Cleats for Styles 1, 2, 2½, 4 and 5.

Type No.	Weight of Contents	Groups I and II Woods			Groups III and IV Woods		
		Minimum Thickness of Sides, Tops and Bottoms (Inches)	Minimum Thickness of Ends (Inches)	Minimum Thickness and Width of Cleats (Inches)	Minimum Thickness of Sides, Top and Bottoms (Inches)	Minimum Thickness of Ends (Inches)	Minimum Thickness and Width of Cleats (Inches)
C-1	0-60	11/32	3/4		5/16	11/16	
C-2	61-125	7/16	5/8	5/8 x 1-3/4	3/8	5/8	5/8 x 1-3/4
C-3	126-250	9/16	3/4	3/4 x 2½	1/2	11/16	11/16 x 2½
C-4	251-400	11/16	25/32	25/32 x 2-5/8	9/16	3/4	3/4 x 2½
C-5	401-650	25/32	25/32	25/32 x 2-5/8	5/8	3/4	3/4 x 2½

Style of Box: Boxes for the various weights will be constructed according to the following styles:

Type	Box Style	Type	Box Style
C - 1	1	C-4	2 or 4
C - 2 & C - 3	4 or 5	C-5	2 or 2½

Note: For packaging of frozen, cured, salted and smoked meats, Types C-3, C-4, and C-5 shall be Style 2½.

Nailing: Nails of the following penny-weight shall be used according to the various types of boxes and the wood of which they are constructed:

Type	Wood Group	Penny Wt. of Nail	Type	Wood Group	Penny Wt. of Nail
C-1, C-2	All	5	C-4	3	6
C-3	1 & 2	6	C-4	4	5
C-3	3 & 4	5	C-5	1 & 2	8
C-4	1 & 2	7	C-5	3 & 4	6

Strapping for Various Weight Fiberboard and Nailed Wood Boxes

Nailed wood and fiberboard boxes shall be tightly strapped with steel straps protected with a rust-resistant coating. The minimum gage or size of the straps shall be as specified in the following table:

Weight Group	<u>Round Steel</u>		<u>Curved Edge or Flat Straps</u>
	100,000 lbs. per sq. in. Tensile strength (Gage)	140,000 lbs. per sq. in. Tensile strength (Gage)	80,000 lbs. per sq. in. Tensile strength Width - Thickness
0-60	15	15	3/8 x 0.020
61-125	14	15	3/8 x 0.020
126-175	13	14	1/2 x 0.020
176-250	13	13	5/8 x 0.020
251-400	13	13	3/4 x 0.020
401-600	12	12 1/2	3/4 x 0.023

Joint or knot breaking strength shall be at least 75% of the tensile strength of the strapping.

Application of the Strapping:

Method A: Fiber boxes having sleeves, Bliss Style, and telescope fiber boxes, shall be strapped with two straps applied at right angles to each other with one strap centered over top, sides, and bottom, and the other strap centered over top, ends, and bottom. The longer strap shall be applied first.

Method B: Style I nailed wood boxes shall have three straps applied - two straps around the top, sides, and bottom with a strap located approximately 1/6 of the length of the box from each end, and one strap shall be centered around the top, ends, and bottom at right angles to the other two straps. The longer strap shall be applied first.

Method C: Nailed wood boxes other than Style I shall have two straps applied around top, sides, and bottom with a strap located approximately 1/6 of the length of the box from each end.

Method D: Unless otherwise specified, fiberboard boxes without sleeves shall be strapped in the same manner as described in either Method A or Method C.

BARREL SPECIFICATIONS

New or used hardwood tierces, barrels or kegs manufactured of white oak, red oak, fir, ash or gum (red or sweet) shall be constructed according to Grade Rules and Specifications of the Associated Cooperage Industries of America, Inc. (Used tierces or barrels shall be recoopered and conditioned so that they will be considered to be sound in comparison with a new barrel.)

Barrels will be lined in the following manner, depending upon the product for which they are intended:

- | | |
|-----------------------|----------------------------|
| <u>A</u> - Unlined | <u>D</u> - Double Silicate |
| <u>B</u> - Paraffined | <u>E</u> - Glue |
| <u>C</u> - Silicate | |

